

Appl. No. 10/554,302
Docket No. Z07865Q
Amdt. dated 28 March 2011
Reply to Office Action mailed on 19 January 2011
Customer No. 27752

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Previously presented) A plastic surface printing method comprising:
 - providing a metallic hot-stamping tool with a plastic-coated outer stamping surface,
 - preheating a surface of a plastic work piece, to be printed; and
 - moving the stamping surface to press a carrier foil against the surface of the plastic work piece such that a pigment layer is transferred from the carrier foil onto the work piece,
 - wherein the work piece surface to be printed is preheated to a temperature between 80°C and 120°C,
 - wherein the stamping surface is heated to a temperature of between 140°C and 240°C, and
 - wherein preheating the work piece surface comprises:
 - sensing a characteristic of the work piece surface by means of a sensor, wherein the characteristic is selected from the group consisting of color, roughness, and material type; and
 - transmitting corresponding electric data signals indicative of the sensed characteristic from the sensor to an electronic evaluation device that subsequently adjusts a heating power of the heating device based, at least in part, on the characteristic data transmitted from a sensor.

2-3. (Canceled)

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4. (Previously presented) The method according to Claim 1, wherein preheating the work piece surface comprises locally heating the work piece surface to be printed, by means of an infrared lamp or a fan heater.

5-6. (Canceled)

7. (Previously presented) The method according to Claim 1, wherein the preheated work piece surface comprises a surface of a plastic toothbrush.

8. (Previously presented) The method according to Claim 7, wherein the toothbrush surface consists of a thermoplastic plastic.

9. (Canceled)

10. (Previously presented) The method according to Claim 1, wherein the hot-stamping tool is coated with a silicon layer.

11. (Previously presented) The method according to Claim 10, wherein the silicone layer has a thickness between 1 and 4 mm.

12. (Previously presented) The method according to Claim 11, wherein the silicone layer has a thickness between 2 and 3 mm.

13. (Previously presented) The method according to Claim 1, wherein the stamping surface is preheated to a temperature between 200°C and 220°C.

14. (Previously presented) A plastic surface printing method, the method comprising:
providing a metallic hot-stamping tool with a plastic-coated outer surface that forms a stamping surface;

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preheating a surface of a plastic work piece, to be printed, to a temperature between 80°C and 120°C;

heating the stamping surface to a temperature between 140°C and 240°C;

and

moving the heated stamping surface to press a carrier foil against the surface of the preheated work piece such that a pigment layer is transferred from the carrier foil onto the work piece, wherein preheating the work piece surface comprises:

sensing a characteristic of the work piece surface by means of a sensor, wherein the characteristic is selected from the group consisting of color, roughness, and material type, and

transmitting corresponding electric data signals indicative of the sensed characteristic from the sensor to an electronic evaluation device that subsequently adjusts a heating power of a work piece surface heater based, at least in part, on the sensed characteristic data transmitted from a sensor.

15-16. (Canceled)

17. (Previously presented) The method according to Claim 14, wherein preheating the work piece surface comprises locally heating the work piece surface using an infrared lamp.

18. (Canceled)

19. (Previously presented) The method according to Claim 14, wherein the hot-stamping tool is coated with a silicon layer that has a thickness between 2 and 3 mm.

20. (Previously presented) The method according to Claim 14, comprising heating the stamping surface to a temperature between 200°C and 220°C.

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21. (Previously presented) A plastic surface printing method comprising:

providing a metallic hot-stamping tool with a plastic-coated outer stamping surface using a heating device, preheating a work piece surface to be printed; and

moving the stamping surface to press a carrier foil against a surface of the work piece such that a pigment layer is transferred from the carrier foil onto the work piece,

wherein the work piece surface to be printed is preheated to a temperature between 80°C and 120°C,

wherein the stamping surface is heated to a temperature of between 140°C and 240°C, and

wherein preheating the work piece surface comprises:

sensing a characteristic of the workpiece surface by means of a sensor; and

transmitting corresponding electrical data signals indicative of the sensed characteristic from the sensor to an electronic evaluation device that subsequently adjusts a heating power of the heating device based, at least in part, on the characteristic data transmitted from a sensor.

22. (Cancelled)